

PATENT ABSTRACTS OF JAPAN

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(54) REMOTE AUDIO/VISUAL SIGNAL RECORDING METHOD AND ITS
DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a media transmission system can utilize may types of signal supply source forms and concretely designate a media program desirably received in any time to each user at the same time.

SOLUTION: A client makes a request for recording a media program sent from a transmitter and the transmitter informs the client of a storage part of a program requested by an E-mail. The client accesses the transmitter through the Internet and the transmitter transmits the stored program. The transmitter can transmit

the requested program almost in real time.

CLAIMS

[Claim(s)]

[Claim 1] A remote program recording method through a computer network comprising:

- a) A step which sponsors and carries out two or more media programs.
- b) A step which receives a Request to Send of a specific media program of the KURAI and which also included specification of transmission form from a client via said computer network.
- c) A step which chooses said media program specified by the client and is saved by digital format.
- d) A step which sends a message which shows a computer network address which can access a media program saved via said computer network.

[Claim 2] e) A method according to claim 1 by which a step which receives an access request from said client to said saved media program via said computer network being included further.

[Claim 3] f) A method according to claim 1 by which a step which transmits said saved media program to said client via said computer network in form specified during demand reception being included further.

[Claim 4] A method of being compatible with form that said digital format which saves said specified media program was specified during demand reception according to claim 1.

[Claim 5] A method according to claim 1 wherein said specified form is streaming video form.

[Claim 6] A method of claim 5 by which a server which two or more streaming video forms are provided and can provide streaming video in form that said computer network address sent to said client was required by the client being

shown.

[Claim 7] A method according to claim 1 wherein a message by which predetermined carries out time continuation and said media program is sent to said client is sent after duration time of said media program passes.

[Claim 8] A method according to claim 3 while said selection and preservation are performed wherein said program transmission is performed.

[Claim 9] A method according to claim 8 wherein said selection and preservation are started so that said media program can transmit by the real time mostly to the client since said message which shows a computer network address is sent almost simultaneous to said client.

[Claim 10] Have the following and said sending set caters to a Request to Send from said client received via said computer network A remote media program recording and reproducing system for using it on a computer network transmitting said media program saved to said client via the computer network.

- a) Two or more media program signals which show a media program respectively.
- b) Two or more media sending sets for sponsoring a media program saved in the form of predetermined on said computer network respectively.
- c) A server for receiving a recording request including a recording request in which the client carries out transmission form specification from a client with a media program which wants to receive the media program via said computer network.
- d) The selection/inverter for choosing a specific media program from said two or more media program signals and changing said selected media program into digital format e) A preservation apparatus saved by digital format provided with said selected media program by said selection/inverter f) An information device for notifying one of said the media sending sets and one data file of said preservation apparatus which saves said specific media program to said client corresponding to completion of preservation of said specific media program by said preservation apparatus.

[Claim 11]The media program recording and reproducing system according to claim 10 containing a scheduler which at least one of said two or more of the media program signals shows a broadcasting signal based on timeand said recording and reproducing system answers a recording request and broadcasting-hours informationand chooses a specific media program.

[Claim 12]The remote media program recording and reproducing system according to claim 11wherein said media program demanded by said client is the television broadcasting of a sporting event.

[Claim 13]The media program recording and reproducing system according to claim 10wherein said media program chosen by said client is a movie.

[Claim 14]The media program recording and reproducing system according to claim 11 characterized by said system manufacturing only a portion of a media program or media program broadcast for transmission to a client after said Web server receives a demand from a client.

[Claim 15]The media program recording and reproducing system according to claim 10wherein said preservation apparatus saves said media program by uncompressed digital format.

[Claim 16]The media program recording and reproducing system according to claim 10wherein at least one of said the media sending sets transmits a media program in streaming video form.

[Claim 17]The media program recording and reproducing system according to claim 16wherein said streaming video form is actual media.

[Claim 18]The media program recording and reproducing system according to claim 16wherein said streaming video form is net show video.

[Claim 19]In a media program recording and reproducing system for using it through the Interneta) Two or more time schedule-ized media programs which show one media programrespectivelyb) Two or more Internet media sending sets with which each media sending set transmits a media program in the form of predetermined through the Internetc) A server for receiving a media program demand which specifies one media program from a client through said

Internet and specifies digital [that the client hopes to receive the media program] transmission format) The selection/inverter for choosing a specific media program from said two or more time schedule-ized media program signals and changing said selected media program into digital format) A preservation apparatus for saving said at least a part of selected media program at a data file by digital format specified by said client to a server) It consists of an information device which notifies a data file of said preservation apparatus which saves an Internet address which specifies one of said the Internet media sending sets as said client and said at least a part of specific media program A remote media program recording and reproducing system which answers a Request to Send from said client by which said media sending set was received via the Internet and transmits said media program to said client from said preservation apparatus via the Internet.

[Claim 20] At least one of said two or more of the media program signals shows a signal based on time and said media program selected system answers a media program demand and schedule-ized broadcasting-hours information The media program transmission system according to claim 19 containing a scheduler which chooses a specific media program.

[Claim 21] The media program transmission system according to claim 19 wherein at least one of said the media sending sets transmits a media program in streaming video form.

[Claim 22] The media program transmission system according to claim 21 wherein said streaming video form is actual media.

[Claim 23] The media program transmission system according to claim 21 wherein said streaming video form is net show video.

[Claim 24] The media program transmission system according to claim 19 wherein said specific media program is the television broadcasting of a sporting event.

[Claim 25] The media program transmission system according to claim 19 wherein said media program is a movie.

[Claim 26] A media server comprising:

- a) Two or more media program signals which show one media program respectively.
- b) Two or more media sending sets which sponsor a media program saved in the form of predetermined through a computer network respectively.
- c) A request device for receiving a preservation request which specifies transmission form considered that one media program and its client want to receive the media program from a client via a computer network.
- d) A device for choosing a specific media program from said two or more media program signals and saving said media program by said specified transmission form and compatible digital format)
- e) An information device which notifies a computer network address which shows said saved media program to said client.

[Claim 27] The media server according to claim 26 answering a Request to Send from said client received via said computer network and transmitting said media program saved to the client through the computer network.

[Claim 28] The media server according to claim 26 containing a scheduler which at least one of said two or more of the media programs shows a broadcasting signal based on time and said media server answers a preservation request and broadcasting-hours information and chooses a specific media program.

[Claim 29] The media server according to claim 28 manufacturing a part of media program or media program broadcast in order that said media server may transmit to a client after the server receives a demand from a client.

[Claim 30] a) characterized by comprising the following -- two or more media program receiving sets which access two or more media program signals respectively.

Two or more media program receiving sets which at least one media program signal can access with said some of two or more media program receiving sets.

- b) A demand responding device sent to a media program receiving set which answers a preservation request which asks for preservation of a media program signal shown by the client from a client and has the right to access [as opposed

to the demanded media program for the preservation request].

c) A preservation apparatus which saves said demanded multimedia program which was installed in a media program receiving set which receives a preservation request sent from said request device.

[Claim 31]The media program preservation system according to claim 30 by which said demand responding device is characterized by saving accessibility data in which the accessibility of a media program signal in said media program receiving set is shown.

[Claim 32]The media program preservation system according to claim 31 analyzing said accessibility data in order that said demand server may identify a media program receiving set which has the right to access to said demanded media program.

[Claim 33]The media program preservation system according to claim 30 reporting that preservation as which said media program reception composition which receives said preservation request was required of said client which advanced the demand was performed.

[Claim 34]Said media program reception composition for which said preservation request is received receives a demand which asks for transmission of said media program saved from said clientThe media program preservation system according to claim 33 transmitting said saved media program to said client through said computer network in streaming video form.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention computer networkssuch as the Internetabout transmission to the client of multiplex media signalssuch as

television to pass more specifically This invention receives selectively the time schedule-ized signal from two or more sources of dispatch is the demand of a client and relates to the method and device for transmitting the display of a signal demanded [above-mentioned] without following to the above-mentioned client with record and time shift delay.

[0002]

[Description of the Prior Art] Although a television signal is taken up as most general example by the following explanation these signals may be which media signalssuch as broadcast FM and television or may be which signals of the others which a client desires. Although the term of a "time schedule-ized signal" is known by the donor of the service as for the display control of the time of the display is used so that it may mean including any signal of the type which is not generally controlled for some of the donors. Such a time schedule-ized signal includes broadcast television broadcast FM cable television and FM satellite TV JON the FM signal the closed circuit display etc.

[0003] The newest television and FM user can choose the signal from very broad various signal supply sources. These signal supply sources contain standard broadcast television a cable network and a variety of satellite systems. Other systems which do not mention a name needed the receiving set/decoder of a different type and almost all users use the service of one or two types which they actually receive [these / system or here]. Economically these users cannot access to all the media programs or almost all supply sources. Even if it is possible for a one person to hold all the devices the most is rarely used therefore it does not have economical value.

[0004]

[Problem(s) to be Solved by the Invention] Cable television is one trial in which it enables it to provide each household with many media by sharing the cost for receiving the signal of many types and transmitting those signals to a user in a standard form. Although the cost of a cable system is sharable by many users since the bandwidth which can be used with a cable income is restricted a

cable service provider depends for a media channel on the common base it enables it to use for the member. Therefore the range of the program which can be used will be restricted. It is a media transmission system which enables it to specify concretely a media program [being needed by this technical field has an available signal supply source form of many types receives each user simultaneously and] to receive even at the arbitrary time of a gap.

[0005] Such a standard media program receiving method and device fulfill other needs in this technical field. The video tape recorder (VTR) often called a video cassette recorder is generally used today and although most does not say it exists in many households. The VTR itself causes many complicated accidents good [many] and known [are mechanical and include the electrical function and]. If there is no backup VTR in a user's house one accident will make record of a desirable program impossible. If there is VTR the televiewer can record a program from broadcasting media and can reproduce it later. It seems that it cannot use such a procedure with almost all households according to the general report although almost all the newest VTR makes possible a little complicated procedure for recording the selected broadcast program. The directions for most common VTR are turning on a recording function manually during televising of a program or playing the recorded tape. Although systems such as VCR+ which simplified the operation which is needed in order to record a broadcast program are developed these usually raise the cost of a recording system and although it is used with many households they are still complicated. As a result the freedom on television viewing and listening which will be enjoyable if record can be cheaper and it can carry out easily is not got.

[0006] Tivo of Sunnyvale California (www.Tivo.com) and Replay of TV Mountain View and California (www.ReplayTV.Com) are put on the market these days. The new method for recording a receiving television signal at the place in which a televiewer is present is provided. These systems make it possible to save a receiving television signal in digital one and provide it with Homo sapiens / machine interface improved more. Although some advantages are provided with

a publicly known digital system those systems require a par viewing system i.e. gold and need TV reception / decoder in which an accident happens easily like the case where it is the device for the public of all not doubling.

[0007] The broadcasting-media recording system improved rather than it did not need a par viewing device preservation mechanism but having provided simplified Homo sapiens / machine interface is needed by this technical field.

[0008]

[Means for Solving the Problem] A system and a method by this invention provide broadcasting-media record and/or transmission which do not need a recording medium for every televiewer and do not require cost by doing so but can also avoid the conventional system complexity. Control to transmission of record events and media is performed by passage in computer networks such as the Internet known well.

[0009] A problem which was described above receives a time schedule-ized media program and answers a demand from a client which is present in a distantly distant place from a place of the above-mentioned program reception. A specific media program is chosen this invention which is a device and a method for transmitting the selected program to the above-mentioned client via digital networks such as the Internet is solved and fixed advance is achieved. One embodiment by this invention contains a transmission system connected to two or more media program supply sources and one person or two or more clients via the Internet. This media program supply source includes cable television, a satellite transmission system, CCTV, other media program supply sources, etc. Such Mr. Oshi can access a client to a media program of the more difficult contents such as a company meeting of officers and the educational medicine procedure program via the usual television program such as a drama of lunchtime, a movie, and a broadcast sporting event and CCTV based on a media supply source.

[0010] By one embodiment the above-mentioned client specifies streaming video form and a data transfer rate at the time of contacting media reception /

transmission system via the Internet and a media program to receive and its program being sent to the client. A transmission system verifies a demand of the above-mentioned client and notifies the desirable program and transmission form and a data transfer rate to a scheduler portion of the above-mentioned transmission system. A scheduler assigns an encoder for changing into video forms of which a receiving set and a program received for receiving the specified media program were required. A scheduler starts reception and coding just before time of "televising" to which the SHUKU joule of the demanded media program was carried out.

[0011] Since the above-mentioned reception and a transmission system can be opened all over the world, the client can contact reception and a transmission server of one place of the world and can control preservation of a multimedia signal in somewhere else. A client of Chicago can send a preservation request of a match at cricket of broadcast television of India. Reception/transmission system of India can save a demanded match at cricket and can send it to the above-mentioned client. Therefore, the client can record/view/listen to it and/or reproduce a program which the client cannot usually access.

[0012] An encoded media program is saved in digital format by high-speed high capacity preservation. If a demanded predetermined time of media program completion comes, reception and coding will be suspended. A transmission system creates an E-mail (E-mail) message which shows one of two or more of the program sending sets and an address of a file which saves a digitized media program and sends the message to the above-mentioned client. Suitably, an E-mail to the above-mentioned client contains URL which shows both the above-mentioned sending set and a file address. The client transmits URL obtained from a transmission system E-mail through the Internet to receive a program where a client was saved. A sending set of a transmission system reads the media program from a preservation apparatus and transmits to the above-mentioned client through the Internet in form that it was required at the client.

[0013]a program as which a client was required by another embodiment -- transmission in real time can be required mostly. In other cases this transmitting type is used by client [liking to acquire the right to access to a program which that client cannot use]. That is in other cases the client can access to no program supply sources to which the transmission system is connected. A client is coded in a way similar with the program having been chosen from those supply sources and having stated above in digital one when transmission in real time was required mostly of a specific media program. However since a start address of the file will be adjusted if URL of a media program file saved is promptly notified to a client and a client accesses it a short delay for about 10 minutes is between a written-in file address and a file address transmitted to the client from 0.5 second.

[0014]

[Embodiment of the Invention] Drawing 1 receives record and/or the presentation request of the media program from two or more clients 11, 13, 15 and 16 and shows the system for transmitting a media program to those clients. By drawing 1 the Internet 17 is accessed via an analog modem and the client 11 has the amount of data processing of a maximum of 56K bps. The Internet is accessed via XDSL connection the client 13 has the amount of data processing of about 6 Mbps(es) it is connected via LAN and the client 15 has the amount of data processing of 10-100Mbps. Finally the client 16 is connected to the Internet via the cable modem. Although the Internet is used as a communication apparatus in this embodiment this method and the creation can operate in the digital network of every type.

[0015] The clients 11, 13, 15 and 16 as a thing representing the client of connectable a large number are connectable with the media transmission system 50 through the Internet 17 and the network connection 18. The transmission system 50 communicates with the clients 11, 13, 15 and 16 receives a media Request to Send from the above-mentioned client and transmits a media program to those clients. The media which are transmitted and/or are recorded All kinds of satellite transmitting televisions 31a and 31b it comprises the media signal supply source

37 of others such as feeding FM signal 35, closed circuit television etc. from the cable television feeding cable 33 and standard broadcast television. According to this embodiment of the signal supply source 31-37, the transmission media program and media program by standard format are sponsored from a supply source based on the time schedule known. The media signal from the supply source 31-37 is chosen based on the demand from the client 11-16 and is transmitted by the transmission system 50 in the form specified by the client. If the transmission system 50 begins to receive a media program selectively, the above-mentioned client will access the media via the Internet 17 and the network connection 18.

[0016] Drawing 2 shows the above-mentioned device used by the transmission system 50 and contains the demand server 19 connected by the Internet 17 by the network connection 18. The demand server 19 is INTAFEZU of the beginning with the above-mentioned client; therefore the URL is "home" URL of a transmission system. The demand server 19 transmits a client request to the scheduler 20 which supervises the operation of the above-mentioned transmission system 50 and answers the demand; chooses a specific program and enables it to use it for a client. The scheduler 20 holds the present and the future information about various media supply sources; for example, the media program which can be used on 31a-37 and the time which can use them. The main supply sources of such scheduling data can be accessed via the Internet 17 which can be used on the connection 22.

[0017]. [whether the media program demanded by the client is shown and]
When the show is going to be started, the scheduler 20 makes the standard baseband signal of the media program which connected the signal supply source which transmits the program to a receiving set / decoders 53 such as a receiving set / decoder 53 suitable for the signal supply source and was chosen. As shown in drawing 2 in this embodiment, two or more receiving set / decoders 53-69 exist. The channel X from the satellite 31a For example, when [for example] it should be made available to the client 15, the scheduler 20 sends a connection request to

multi-switchessuch as the multi-switch 80and in order for the signal from the satellite to come to handit connects the source signal from the satellite 31a to specific receiving set / decoder 55for examplea receiving set/decoder. Simultaneouslythe scheduler 20 sends the receiving set / decoder command which shows that the channel X should be changed into a base band by the receiving set 55 to the reception-control device 91. In this exampleeach receiving set / decoder 55for examplea receiving set/decodercan make a base band output signal about one video channel at a stretch. Thereforethe transmission system which transmits and/or records the video channel of 200 simultaneously will need the receiving set/decoder of at least 200. The receiving set control device 91 is connected to the receiving set / decoder 53-69The signal from the supply source 31 specified as opposed to them is receivedand a parameter required in order to decode/or its signal to a video base band is transmitted to those receiving sets/decoders. Operation of such the receiving set/a decoder controlled in digital one is known welland is not explained in detail here.

[0018]The video base band output signal from each receiving set / decoder 53-69 is connected to two or more one [video digitizer 23a-23n] predetermined. The video digitizer of this embodiment is connected to three baseband signal inputs from the above-mentioned receiving set/decoder in the 450MHZ Pentium (registered trademark) II NT work stationrespectively. As [connect / digitizer / only only to one a receiving set/decoder / in other embodiments/ capacity of a digitizer is smaller and] Similarlythe digitizer with bigger capacity is also connectable with three a receiving set/decoders or more.

[0019]Each video digitizer comprises the high capacity processor 95 and the Sun Solaris box high capacity preservation apparatus 97 box type preservation array 5000. For examplethe processor 95 receives each receiving base band video signal from its receiving set / decoder 5355and 57 connectedfor examplea receiving set/decodersand changes these each input signal into incompressible AVI form. Incompressible AVI is changed into the form specified by the client by the first demand after that. The changed video/audio signal are saved in the file

of the preservation apparatus 97 in order to play to the demanded client. Operation by the processor 95 is performed corresponding to the directions from the scheduler 20.

[0020] The transmission system 50 contains two or more reproduction servers again and shows drawing 2 the reproduction servers 101, 103 and 105 before long. Each reproduction server has one or more Internet addresses and he is connected in order to search all the video digitizers for example the high capacity preservation apparatus of 23 for example the file saved from 97. By transmitting the streaming video which searched the video displayed by the above-mentioned URL from the predetermined high capacity preservation apparatus and was pulled out from the video file a playback server's software control. The demand from the client to specific URL including the identity of a file is met. The high capacity preservation apparatus which saved the recorded each video program is shown to the playback servers 100, 103 and 105 by the scheduler 20 like the address of a specific file.

[0021] Suitably reproduction to a client is performed by one of the above-mentioned streaming video forms which the client can receive. If a client requires a media program from the demand server 19 first a desirable streaming video form will be specified with the demand. The scheduler 20 shows the demanded recall type to the video digitizer chosen in order to record the video program in response to the demand information. Then the video digitizer is changed into the form demanded before saving compression AVI of the video program at a high capacity preservation apparatus.

[0022] Drawing 5-7 is a flow chart of the operation of many components of the above-mentioned transmission system performed in order to transmit the sequence and the demanded media program of communication between the client 15 and the transmission system 50 to the client. Although emphasis is put on transmission of video programs such as television in this figure an audio or video may be sufficient as the media program transmitted and that video program may contain the audio portion.

[0023] In this embodiment a client needs to become a member of service before requiring media transmission. By such a membership system the above-mentioned transmission system records some default parameters of media transmission and when required the method of paying for service can be established. According to other embodiments such a membership system is not needed but the client can only contact the demand server 19 and can require media transmission and/or preservation.

[0024] For example the client 15 can contact the demand server 19 at any time using URL to the service provider's home page. When the demand server is contacted before a client becomes a member (drawing 5 Step 501) in order to check whether the client is a nonmember Step 505 is performed and the screen which asks whether the nonmember client wants to become a member is shown in the client. When you wish to become a member the screen of an information box in which the term and conditions (not shown) of a member as shows drawing 3 to the client are shown is shown. After seeing those term and condition the client inputs its e-mail address into the text box 107 at the same time it inputs its name and address 107 into the box. In this embodiment although the e-mail address of a client is used as a log -**** name over the service by other embodiments another new text as another object for log -**** names may be used. And a client enters into the text box 103 the password for obtaining the permission which uses the service after things in the confirmation box 105 it checks the password. A client inputs connecting speeds such as 6Mbps into the box 111 for example at the same time it inputs its connection type in the text box 109 again. [such as XDSL] Furthermore a client specifies the video forms which he wants to use in order to receive the signal demanded in the text box 112 later. The information concerning [a client] the last for paying a credit card number etc. for the text box 113 is inputted. If the input to a box is completed a client will click the recognition button 117 The information is sent to the demand server 19 as member data and the demand server 19 saves a parameter required for the client membership file 543 at Step 543 at the same time he verifies the data at Step

541. When verification of information is completed the demand server 19 shows a "thank you [for the admission]" screen to a client. In order that a demand server may show that the admission permission was given to the client Cookie is displayed on the computer of the client (Step 543).

[0025] The client which became a member inputs the demand server's 19 URL freely and can connect it to the demand server 19 through the Internet and the demand server 19 recognizes the status as the member. When recognizing that a client is the member and checking the Cookie of the client by the input of the password of a client a demand server shows a program demand screen to the client (drawing 5 Step 507). It is used by the client in order to require that a demand screen as shown in drawing 4 should transmit a specific media program to the client. In this example in order to view and listen to a client later in the text box 201 it is required that the media program should be recorded. A client checks the program which should be recorded again using the screen of drawing 4. As shown in a figure a client inputs [the program supply source 1 for example a cable] the text box 205 and televising time of onset and televising end time into the text boxes 207 and 209 for the text box 203 and the channel 17 respectively. If the click button is also provided and this click button is clicked as help to a client the demand which shows a program list to that client will be performed. Those values can be inputted into the text boxes 213 and 215 if you wish to use the different connecting speed and streaming video except the above-mentioned client being checked with the admission form (drawing 3) finally. If the data input on the screen shown in drawing 4 is completed a client clicks the button 217 and in order to use it for preparation of the media program demanded in order to transmit to the client the requested data will be sent to the demand server 19.

[0026] In other embodiments other composition for choosing a media program can be used. For example the perfect list with which all the program and its available time can be searched to the client can be shown. In that case the channel and time of a program which a client only clicks an only desirable media program and its supply source and were clicked are recorded. The printed text including the

VCR+ number about each program which can receive the program selection etc. may be included. In this case a client only inputs a VCR+ number on the screen shown and that transmission system 50 discriminates that supply source and time from that number. Thus probably in the system currently indicated here it turns out that many methods of specifying and showing a media program to a demand server are possible. If it is not concerned with the method of a program check but a demand is performed the demand server 19 has to choose a program applicable from the supply source and has to have sufficient information to code appropriately [in order to transmit the program to a client].

[0027] In this example the demanded media program is saved by the transmission system 50 in order to provide for the client 15 later. The identity of the program where a demand server should be saved to the scheduler 20 if a program preservation request is received at Step 509. The type of streaming video transmitting [which the demanded identity (e-mail address) of a client, the data transfer rate of the client and its client wish] is transmitted (Step 511). The scheduler 20 analyzes the information from the demand server 19 at Step 513 and while the reception and preservation are performed it aims at time adjustment about the ability of a receiving set / decoder 53 and the video digitizer 23a to use [when] for example. Just before preservation is started that is in order to perform on the scheduler 20 just before the time of onset when the demanded media program was planned a preservation routine is scheduled at Step 515.

[0028] If it performs it will communicate with the device scheduled so that the program selection, the coding and preservation as which the preservation routine (drawing 6) was required might be performed. First the scheduler 20 transmits the instructions which connect the cable 1 to a receiving set / decoder 53 to the multi-switch 80 for example it was assigned to data that is and it was assigned to the scheduler a priori at Step 521. The command which specifies that the scheduler 20 controls a receiving set / decoder 53 by Step 523 and switches the channel 17 of the signal from the cable 1 to baseband is sent to the control device 91 almost simultaneously. The scheduler 20 shows the data transfer rate

and streaming video form of the client to the digitizer 23a as a part of above-mentioned preservation routine. It is ordered the coding to uncompressed AVI of the baseband signal from a receiving set / decoder 53 and conversion to the real media of the result at Step 525. When it does so the processor 95 of the digitizer 23a saves the real media data stream as a file on the preservation apparatus 97 and shows a start file address to the scheduler 20.

[0029] Then a scheduler puts a timer into operation at Step 529 about the preservation routine which carries out a time-out by the end time by which the media program under preservation was scheduled. If a time-out is carried out a scheduler will order it release of the connection established in order to receive the program demanded at Step 531 and it will order it so that coding and preservation of the program may be suspended to the digitizer 23a. Then a preservation routine performs Step 533 in order to specify the reproduction server 105 and it transmits the media program saved at the client based on the demand of a client. In this example the reproduction server 105 is identified because it provides streaming video by real media format. If the reproduction server 105 is identified the scheduler 20 will make the E-mail message which indicates the file accessed to be the identified reproduction server 105 by URL and will send the message to the client 15. As an example URL is

HTTP://www.playbackserver105.com/newrecord etc. and newrecord shows the address of a media program file here.

[0030] The client 15 receives an E-mail from a scheduler and when chosen by the client it accesses URL HTTP://www.playbackserver105.com/newrecord. This reproduction server 105 accesses the real media saved in the memory 97 for the client 15 and sends that file for that file to the client 15 through the Internet.

[0031] In the upper example the client chose the media program after the end by which the media program was planned in time for preservation and transmission. The client can also use again the broad program of a media program which requires transmission by the real time mostly and can be used from the transmission system by it. In order to start transmission by the real time mostly a

client chooses "real time" in the "present to viewer" text box of drawing 4. The remaining procedures of channel selection and connection are fundamentally [as what is shown in drawing 5 shown with the example of the advanced technology] the same. That is the scheduler 20 is the form demanded by the client and the demand of the client is answered by carrying out scheduling of the record of the specified program within the high-speed preservation apparatus 97 for example. The preservation routine of drawing 6 is corrected after execution of Step 527. By the transmission (drawing 7) by the real time Step 551 is mostly performed after Step 527. At Step 55 URL of the saved media file is promptly returned to the client by an E-mail and the client can access a transmitting server promptly. Since the media program file start address data of a transmission server is continuously updated at Step 553 it dissociates from the address with which the file start address is written in now only for a short time [of media program viewing time] whenever file reading URL is received from a client. Since it is a range for about 10 minutes from 0.5 second for a short time [this] the client can view and listen to that media program only by the delay of the range for 10 minutes from 0.5 second after the time of it being shown by the media supply source. the delay interval for [0.5 second -] 10 minutes is based on a client here -- it is mostly considered offer of real-time viewing and listening. When a client withdraws the present connection through the Internet (Step 555) a scheduler cancels the connection and answers at Step 557 by coding within the transmission system 50. [0032] Drawing 1 shows the single transmission system 50 connected to many clients by the Internet. Drawing 8 shows two or more transmission systems in which many transmission systems are shown typically for example the situation where 50a, 50b, 50c and 50d are connected also to the client 11-16 through the Internet. Since it distributes widely all over the world transmission system 50a-50d although a client can be used it can also access the broadcast multimedia which cannot be used in others at one place in the world. The transmission system 50a is San Francisco and also when calling it the Nord way it may have the transmission system 50d. For example the client of Chicago can access a

transmission system and preservation of the football game of San Francisco Forty-Niners and a hockey game of the Nord way can also be required. These programs are saved in each place so that the demanded client can be accessed via the Internet. Transmission system 50a-50d each has network URL of itself and is fundamentally [as the transmission system of drawing 2] the same at drawing 8. For example the client 15 can send the demand to the multimedia program from the transmission system 50a. It is received by the demand server 19 of the transmission system 50a and this demand transmits the data in which that demand is shown to the scheduler 20 with which that demand server 19 is related. The scheduler 20 holds the list of multimedia programs which can be used with the transmission system (50a) containing the scheduler and the list of multimedia programs which can be used with other transmission systems (50b-50d). When the demanded program can use with the transmission system which received the demand preservation and transmission of the program are performed as Embodiment 1 of drawing 1 was described. When the demanded program cannot use with the transmission system which received the demand the scheduler 20 is checked about the ability of which transmission system for example 50d to access the demanded program. And a message is sent to the scheduler 20 of the transmission system 50d which can access the demanded program via the connection 20 and the Internet 17. If the scheduler 20 of the transmission system 50d is received [the sent demand] while saving the program which controlled the transmission system 50d and was demanded it notifies URL which can access the program to the client.

[0033] Previous explanation is indicating that contact of the client of the beginning with a transmission system is performed via digital networkssuch as the Internet. The transmission system may include the telephone interface 24 for the client which does not wish to use a digital network in order to place reception of a media program and an order of preservation. It is connected to the standard telephone network via the connection 25 and this telephone interface 24 contains the sound and tone answerback for receiving the telephone emission from the client

controlled by a microprocessor and grasping those contents. Such a sound and tone answer back are publicly known at the advanced technology and detailed explanation is not given here. In order to verify a demand by telephone to get first a login number a password or a pin is divided into telephone order and is given to the client. Such login and a password or a pin is shown to the client which desires access by telephone at the time of admission permission.

[0034] When a client wants to require preservation of a program via a telephone, the client telephones using a general telephone number and a telephone network answers it by connecting the client to the telephone interface 24. The telephone interface 24 shows an announcement to the call, receives login, verifies a pin or a password and answers by validating access of a client further. An interface will be set up to receive instructions through DTMF tone or a sound if access is accepted. Instructions of a client specify the specific program which should be saved. If program specification instructions are received, a telephone interface will tell these instructions with login to the scheduler 20 and the scheduler 20 will answer it by the method stated in detail above by controlling a transmission system to it. The demanded program is saved by the digital format which the client required at the time of admission. As explained also above, a scheduler sends an E-mail to the address of the client and the specific Internet address used in order to access that the program was saved and its file is told. And a client accesses the saved program through the Internet using the address provided by the E-mail.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] Drawing 1 is a lineblock diagram of the Internet connection device for the media program transmission to a client.

[Drawing 2] The lineblock diagram of the transmission system shown in drawing 1.

[Drawing 3]The figure showing the video screen which a client is shown during an admission signature.

[Drawing 4]The figure showing the video screen shown to a client in order to require transmission of a specific media program.

[Drawing 5]The flow chart showing operation of the above-mentioned media transmission system.

[Drawing 6]The flow chart showing the preservation routine of the media transmission system for time shifting record.

[Drawing 7]" -- the flow chart showing the preservation routine of the media transmission system for transmission by real-time" mostly.

[Drawing 8]The lineblock diagram of the dispersion-media transmission system which comprises two or more media transmission equipment.

[Description of Notations]

11131516 : Client

17: Internet

18: Network connection

31a31b : Health broadcast television

33: Cable television feeding cable

35: FM signal

37: Media signal supply source

201: Real time

203: Cable 1

205: 17

207: 8.00pm CST

209: 10.00pm CST

211: Viewing-and-listening list

213: Speed 1.5M

215: Real media

217: Request to Send

501: Client contact

505: Member verification
507: Program Request-to-Send screen
509: Request-to-receipt data
511: It is data transmission to a scheduler.
513: Assignment of a required device
515: Set a preservation routine for a media start.
517: Perform a preservation routine.
521: Connect a supply source to a receiving set.
523: Receiving set setting out
525: Order a digitizer.
527: From a digitizer to a file address
529: Planned program end time
531: Connection release coding stop
533: Check a reproduction server and a file.
535: Notify file URL to a client.
537: Member screen transmission
539: Member data reception
541: Verification
543: Member file setting out
545: Writing of member Cookie
551: It is URL transmission to a client.
553: By the time a client accesses a file a file start address will be corrected.
555: They are reception and coding until a client carries out connection release.
557: Connection and coding release
